

or moved freely around the nest entrances for at least 15 minutes. When eleven workers from a colony from Penang (Malaysia) were added to a captive fragment from a Singaporean colony, they were accepted by the workers, and all eleven were alive two weeks later. In a similar experiment involving different colonies, mortality of the foreign ants was high during the two week period, but was similar to that for marked controls from the same colony. Transplanted workers participated in brood care and foraging.

### FORAGING PATTERN

*Proatta butteli* ants forage without an apparent circadian pattern. Workers do not travel far from nest entrances. In a detailed survey of forager locations for the primary study colony, only six ants (less than 1 % of the worker population outside the nest) were more than 50 cm from a nest entrance, and the greatest distance was 65 cm ; all my observations indicate foraging was restricted to within about 1 m of colony entrances. Worker density was highest within a circle 50 cm in radius at the tree base (several hundred ants/m<sup>2</sup>), lower in a ring 0.5 - 1.0 m out from the tree base (82 ants/m<sup>2</sup>), and very rapidly declined in more distant 50 cm wide rings because of the paucity of nest entrances farther from the tree.

Furthermore, many foragers were in clumps, with seven clumps of five or more individuals accounting for about two-thirds of all ants more than 10 cm from a nest entrance. At other times clumps of as many as 50 workers occurred beneath leaf litter or on open ground. Most of these ants showed very little activity, and there was usually no evidence of food at their location. The groups were temporary, inconsistent in location, and variable in number. They were not seen in smaller colonies, where foragers also did not reach the densities typical of larger colonies.

### DIET

*Proatta butteli* workers scavenge for invertebrate remains and prey on live arthropods. The ants also collect bits of fresh or dried vegetation, wood, and other plant material, and recruit to piles of sesame seeds provided near nest entrances. Apparently none of these plant materials are eaten, however, although they are added to the debris the ants let accumulate inside the nest.

Small isopods are generally the most common prey. Prey also included termite foragers (the primary study colony often took *Odontotermes*), workers of other ant species, centipedes, cockroaches, homopterans, and lepidopteran and dipteran larvae. Some prey were larger than the *Proatta* :